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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,598	10/24/2003	Hae Il Park	27427.006.00-US	7297

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EXAMINER	
WALFORD, NATALIE K	

ART UNIT	PAPER NUMBER
2879	

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/691,598	PARK, HAE IL
	Examiner	Art Unit
	Natalie K. Walford	2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10/24/2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/03*. 11/18/04
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 12 recites the limitation "the attachment grooves" in the second line of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim 16 recites the limitation "the end portion" in the second line of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Lee et al. (US Pub 2002/0190630).

Regarding claim 1, Lee discloses in figure 1, a cathode ray tube, including: a glass front panel (1); a funnel (6) fastened to the panel, the funnel including a neck part and a screen part opposing the neck part, wherein the screen part is fastened to the panel; a fluorescent screen (3) formed on an interior surface of the panel; a shadow mask (2) disposed a predetermined distance from the fluorescent screen; an electron gun (5) coupled to the neck part for emitting electron beams, the electron beams formed of a plurality of electrons; a deflection yoke (4) for deflecting electrons within the electron beams in horizontal and vertical directions, wherein the deflection yoke includes a horizontal deflection coil (FIG. 2, 41) for horizontally deflecting electrons within the electron beams and a vertical deflection coil (FIG. 2, 42) for vertically deflecting electrons within the electron beams; a core (FIG. 2, 44) for reducing loss in the strength of a magnetic field generated by the horizontal and vertical deflection coils, the core including an attaching portion; and a holder (FIG. 2, 43) for holding and insulating the horizontal and vertical deflection coils, wherein along a cross section perpendicular to an axis of the funnel, a thickness of the attaching portion of the core is different from a thickness of a portion of the core proximate a portion of the funnel fastened to the panel.

Regarding claim 2, Lee discloses the cathode ray tube according to claim 1, wherein the thickness of the attaching portion is greater than the thickness of the portion of the core proximate the screen part (FIG. 2).

Regarding claim 13, Lee discloses the cathode ray tube according to claim 1, wherein the core includes ferrite (page 4, paragraph 55).

Regarding claim 18, Lee discloses the cathode ray tube according to claim 1, wherein an interior surface of the funnel has a cross section, perpendicular to the axis of the funnel, that gradually changes from a substantially circular shape at the neck part to a substantially non-circular shape at the screen part (FIG. 1).

Regarding claim 19, Lee discloses the cathode ray tube according to claim 1, wherein an exterior surface of the funnel has a cross section, perpendicular to the axis of the funnel that gradually changes from a substantially circular shape at the neck part to a substantially non-circular shape at the screen part (FIG. 1).

Claim 20 is rejected under 35 U.S.C. 102(b) as being anticipated by Belica (US 4,754,248).

Regarding claim 20, Belica discloses in figure 34 a core (30) of a cathode ray tube, including: a pair of split cores (30a and 30b) fixable to each other, wherein a first opening and a second opening opposing the first opening are definable by the pair of split cores; an attaching portion (22) wherein a protruding portion of attaching portion protrudes above an exterior surface of the split cores.

Regarding claim 21, Belica discloses the core according to claim 20, further comprising attachment grooves (31 and 32) adjacent the attachment portion wherein

the thickness of the split cores between the attachment grooves is different than a thickness of a portion of the split cores defining the first opening.

Regarding claim 22, Belica discloses the core according to claim 21, wherein the thickness of the split cores between the attachment grooves is greater than a thickness of a portion of the split cores defining the first opening (FIG. 4).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3-7 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (US Pub 2002/0190630) in view of van der Meer et al. (US 4,730,145).

Regarding claim 3, Lee discloses all limitations of the cathode ray tube according to claim 1, but does not expressly disclose that the thickness of the portion of the core proximate the screen part is about 3mm to about 6mm, as claimed by the Applicant. Van der Meer is cited to show the thickness of a core in a cathode ray tube proximate to the screen part is about 3mm to about 6 mm (column 2, lines 36-42). Van der Meer teaches that use of a thin-walled core can help result in a substantially stress-free core (column 1, lines 56-64).

Therefore, it would have been obvious of one of ordinary skill in the art at the time of invention to modify Lee's cathode ray tube to include a core thickness of about 3mm to 6mm as suggested by van der Meer in order to have a stronger core.

Regarding claim 4, Lee and van der Meer disclose the cathode ray tube according to claim 3, wherein the thickness of the portion of the core proximate the screen part is about 4mm to about 5mm (van der Meer; column 2, lines 36-42).

Regarding claim 5, Lee and van der Meer disclose the cathode ray tube according to claim 3, wherein the thickness of the attaching portion of the core is about 4mm to about 6mm (van der Meer; column 5, lines 21-27).

Regarding claim 6, Lee discloses the cathode ray tube according to claim 1, but does not expressly discloses that the thickness of the attaching portion of the core is about 4mm to about 6mm, as claimed by the Applicant. Van der Meer is cited to show the thickness of an attaching portion of the core in a cathode ray tube is about 4mm to about 6mm (column 5, lines 21-27). Van der Meer teaches that use of a thin-walled core can help result in a substantially stress-free core (column 1, lines 56-64).

Therefore, it would have been obvious of one of ordinary skill in the art at the time of invention to modify Lee's cathode ray tube to include an attaching portion of a core of about 3mm to 6mm thickness as suggested by van der Meer in order to have a stronger core.

Regarding claim 7, Lee and van der Meer disclose the cathode ray tube according to claim 1, wherein thickness of the core adjacent the attaching portion is

about 1/3 to about 2/3 the thickness of the core including the attaching portion (van der Meer; FIG. 1).

Regarding claim 17, Lee and van der Meer disclose the cathode ray tube according to claim 1, wherein the core weighs between about 160g and about 180g (van der Meer; column 5, lines 25-27).

Claims 8-12 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (US Pub 2002/0190630) in view of Belica (US 4,754,248).

Regarding claim 8, Lee discloses all the limitations of the cathode ray tube according to claim 1, but does not expressly disclose attachment grooves along an edge portion of the attaching portion, as claimed by the Applicant. Belica is cited to show attachment grooves (FIG.4, 31 and 32) along an edge portion of the attaching portion of a cathode ray tube. Belica teaches that the attachment grooves can bring the core together (FIG. 4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Lee's cathode ray tube to include attachment grooves as suggested by Belica for bringing the two halves of the core together.

Regarding claim 9, Lee and Belica disclose the cathode ray tube according to claim 8, wherein the depth of the attachment grooves is about 1/3 to about 2/3 the thickness of the attaching portion of the core between the attaching grooves (Belica; FIG. 4).

Regarding claim 10, Lee and Belica disclose the cathode ray tube according to claim 8, wherein an actual depth of the attachment grooves is about 2mm to about 3.5mm (Belica; FIG. 4).

Regarding claim 11, Lee and Belica disclose the cathode ray tube according to claim 8, wherein the two attachment grooves are spaced apart from each other by a distance of about 10mm to about 14mm (Belica; FIG. 4).

Regarding claim 12, Lee discloses the cathode ray tube according to claim 1, but does not expressly disclose an exterior surface of the attaching portion of the core between the attachment grooves protrudes from the major exterior surface of the core, as claimed by the Applicant. Belica is cited to show an exterior surface of an attaching portion of the core between attachment grooves protrudes from the major exterior surface of the core in a cathode ray tube (FIG. 4). Belica teaches that the attachment grooves can bring the core together (FIG. 4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Lee's cathode ray tube to include attachment grooves protruding from the major exterior surface as suggested by Belica for bringing the two halves of the core together.

Regarding claim 14, Lee and Belica disclose the cathode ray tube according to claim 8, wherein a bottom exterior surface of the attachment groove and a surface contactable by a clamp are joined together at a corner having a curvature with a predetermined radius, R (Belica; FIG. 8a).

Regarding claim 15, Lee and Belica disclose the cathode ray tube according to claim 14, wherein R is between about 1 mm and about 2 mm (Belica; FIG. 8a).

Regarding claim 16, Lee and Belica disclose the cathode ray tube according to claim 8, wherein the attachment grooves extend to the end portion of the core proximate the screen part (Belica; FIG. 4).

Claims 23-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belica (US 4,754,248) in view of van der Meer (US 4,730,145).

Regarding claim 23, Belica discloses all the limitations of the core according to claim 20, but does not expressly disclose that the thickness of a portion of the split cores defining the first opening is about 3mm to about 6mm, as claimed by the Applicant. Van der Meer is cited to show the thickness of the split cores is about 3mm to about 6mm in a cathode ray tube (column 2, lines 36-42). Van der Meer teaches that use of a thin-walled core can help result in a substantially stress-free core (column 1, lines 56-64).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Belica's cathode ray tube to include the thickness of a portion of the split cores defining the first opening is about 3mm to about 6mm as suggested by van der Meer in order to have a stronger core.

Regarding claim 24, Belica and van der Meer disclose the core according to claim 23, wherein the thickness of a portion of the split cores defining the first opening is about 4mm to about 5mm (column 2, lines 36-42).

Regarding claim 25, Belica discloses all the limitations of the core according to claim 21, but does expressly disclose that the thickness of the split cores between the attachment grooves is about 4mm to about 6mm, as claimed by the Applicant. Van der Meer is cited to show split cores with thickness of about 4mm to about 6mm (column 2, lines 36-42). Van der Meer teaches that use of a thin-walled core can help result in a substantially stress-free core (column 1, lines 56-64).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Belica's cathode ray tube to include the thickness of the split cores between the attachment grooves is about 4mm to about 6mm as suggested by van der Meer in order to have a stronger core.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalie K. Walford whose telephone number is (571)-272-6012. The examiner can normally be reached on Monday-Friday, 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571)-272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

nkw

9/19/05

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PRIMARY EXAMINER